



# SEQUENCE LISTING

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<120> COMPOSITIONS OF MULTIMERIC PROFILIN FOR DIAGNOSIS AND  
TREATMENT OF ALLERGIES

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<170> PatentIn Ver. 3.3

<210> 1

<211> 134

<212> PRT

<213> *Apium graveolens*

<400> 1

Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Glu Val Glu  
1 5 10 15

Gly Asn Pro Gly Gln Thr Leu Thr Ala Ala Ala Ile Ile Gly His Asp  
20 25 30

Gly Ser Val Trp Ala Gln Ser Ser Thr Phe Pro Gln Ile Lys Pro Glu  
35 40 45

Glu Ile Ala Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala  
50 55 60

Pro Thr Gly Leu Tyr Leu Gly Gly Ala Lys Tyr Met Val Ile Gln Gly  
65 70 75 80

Glu Pro Asn Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Val Thr  
85 90 95

Ile Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Val Tyr Asp Glu Pro  
100 105 110

Val Thr Pro Gly Gln Cys Asn Val Ile Val Glu Arg Leu Gly Asp Tyr  
115 120 125

Leu Ile Asp Gln Gly Leu  
130

<210> 2

<211> 131

<212> PRT

<213> *Arachis hypogaea*

<400> 2

Met Ser Trp Gln Thr Tyr Val Asp Asn His Leu Leu Cys Glu Ile Glu  
1 5 10 15

Gly Asp His Leu Ser Ser Ala Ala Ile Leu Gly Gln Asp Gly Gly Val  
20 25 30

Trp Ala Gln Ser Ser His Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr  
35 40 45

Ala Ile Met Asn Asp Phe Ala Glu Pro Gly Ser Leu Ala Pro Thr Gly  
50 55 60

Leu Tyr Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
65 70 75 80

Ala Ile Ile Pro Gly Lys Lys Gly Pro Gly Gly Val Thr Ile Glu Lys  
85 90 95

Thr Asn Gln Ala Leu Ile Ile Gly Ile Tyr Asp Lys Pro Met Thr Pro  
100 105 110

Gly Gln Cys Asn Met Ile Val Glu Arg Leu Gly Asp Tyr Leu Ile Asp  
115 120 125

Thr Gly Leu  
130

<210> 3

<211> 133

<212> PRT

<213> *Betula pendula*

<400> 3

Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Asp Ile Asp  
1 5 10 15

Gly Gln Ala Ser Asn Ser Leu Ala Ser Ala Ile Val Gly His Asp Gly  
20 25 30

Ser Val Trp Ala Gln Ser Ser Ser Phe Pro Gln Phe Lys Pro Gln Glu  
35 40 45

Ile Thr Gly Ile Met Lys Asp Phe Glu Glu Pro Gly His Leu Ala Pro  
50 55 60

Thr Gly Leu His Leu Gly Gly Ile Lys Tyr Met Val Ile Gln Gly Glu  
65 70 75 80

Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Ile  
85 90 95

Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro Val  
100 105 110

Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu  
115 120 125

Ile Asp Gln Gly Leu  
130

<210> 4  
<211> 131  
<212> PRT  
<213> Cynodon dactylon

<400> 4  
Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Glu Ile Glu  
1 5 10 15

Gly His His Leu Thr Ser Ala Ala Ile Ile Gly His Asp Gly Thr Val  
20 25 30

Trp Ala Gln Ser Ala Ala Phe Pro Ala Phe Lys Pro Glu Glu Met Ala  
35 40 45

Asn Ile Met Lys Asp Phe Asp Glu Pro Gly Phe Leu Ala Pro Thr Gly  
50 55 60

Leu Phe Leu Gly Pro Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Val Thr Val Lys Lys  
85 90 95

Thr Gly Gln Ala Leu Val Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro  
100 105 110

Gly Gln Cys Asn Met Val Ile Glu Lys Leu Gly Asp Tyr Leu Ile Glu  
115 120 125

Gln Gly Met  
130

<210> 5  
<211> 131  
<212> PRT  
<213> Glycine max

<400> 5  
Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Leu Cys Asp Ile Glu  
1 5 10 15

Gly Asn His Leu Thr His Ala Ala Ile Ile Gly Gln Asp Gly Ser Val  
20 25 30

Trp Ala Gln Ser Thr Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr  
35 40 45

Ala Ile Met Asn Asp Phe Asn Glu Pro Gly Ser Leu Ala Pro Thr Gly

50

55

60

Leu Tyr Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
 65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Pro Gly Gly Val Thr Val Lys Lys  
 85 90 95

Thr Gly Ala Ala Leu Ile Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro  
 100 105 110

Gly Gln Cys Asn Met Val Val Glu Arg Pro Gly Asp Tyr Leu Ile Asp  
 115 120 125

Gln Gly Tyr  
 130

&lt;210&gt; 6

&lt;211&gt; 131

&lt;212&gt; PRT

&lt;213&gt; Glycine max

&lt;400&gt; 6

Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Leu Cys Gly Ile Glu  
 1 5 10 15

Gly Asn His Leu Thr His Ala Ala Ile Ile Gly Gln Asp Gly Ser Val  
 20 25 30

Trp Leu Gln Ser Thr Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr  
 35 40 45

Ala Ile Met Asn Asp Phe Asn Glu Pro Gly Ser Leu Ala Pro Thr Gly  
 50 55 60

Leu Tyr Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
 65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Pro Gly Gly Val Thr Val Lys Lys  
 85 90 95

Thr Gly Ala Ala Leu Ile Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro  
 100 105 110

Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Ile Asp  
 115 120 125

Gln Gly Tyr  
 130

&lt;210&gt; 7

&lt;211&gt; 133

&lt;212&gt; PRT

&lt;213&gt; Helianthus annuus

<400> 7

Met Ser Trp Gln Ala Tyr Val Asp Glu His Leu Met Cys Asp Ile Glu  
1 5 10 15

Gly Thr Gly Gln His Leu Thr Ser Ala Ala Ile Leu Gly Leu Asp Gly  
20 25 30

Thr Val Trp Ala Gln Ser Ala Lys Phe Pro Gln Phe Lys Pro Glu Glu  
35 40 45

Met Lys Gly Ile Ile Lys Glu Phe Asp Glu Ala Gly Thr Leu Ala Pro  
50 55 60

Thr Gly Met Phe Ile Ala Gly Ala Lys Tyr Met Val Leu Gln Gly Glu  
65 70 75 80

Pro Gly Ala Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Cys Ile  
85 90 95

Lys Lys Thr Gly Gln Ala Met Ile Met Gly Ile Tyr Asp Glu Pro Val  
100 105 110

Ala Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu  
115 120 125

Leu Glu Gln Gly Met  
130

<210> 8

<211> 131

<212> PRT

<213> Hevea brasiliensis

<400> 8

Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Glu Ile Glu  
1 5 10 15

Gly Asn His Leu Ser Ala Ala Ala Ile Ile Gly Gln Asp Gly Ser Val  
20 25 30

Trp Ala Gln Ser Ala Asn Phe Pro Gln Phe Lys Ser Glu Glu Ile Thr  
35 40 45

Gly Ile Met Ser Asp Phe His Glu Pro Gly Thr Leu Ala Pro Thr Gly  
50 55 60

Leu Tyr Ile Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Pro Gly Gly Val Thr Val Lys Lys  
85 90 95

Thr Asn Gln Ala Leu Ile Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro  
100 105 110

Gly Gln Cys Asn Met Ile Val Glu Arg Leu Gly Asp Tyr Leu Ile Asp  
115 120 125

Gln Gly Tyr  
130

<210> 9  
<211> 131  
<212> PRT  
<213> Hevea brasiliensis

<400> 9  
Met Ser Trp Gln Thr Tyr Val Asp Glu Arg Leu Met Cys Glu Ile Glu  
1 5 10 15

Gly Asn His Leu Thr Ala Ala Ala Ile Ile Gly Gln Asp Gly Ser Val  
20 25 30

Trp Ala Gln Ser Ser Asn Phe Pro Gln Phe Lys Ser Glu Glu Ile Thr  
35 40 45

Ala Ile Met Ser Asp Phe Asp Glu Pro Gly Thr Leu Ala Pro Thr Gly  
50 55 60

Leu His Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Ala Gly  
65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Pro Gly Gly Val Thr Val Arg Lys  
85 90 95

Thr Asn Gln Ala Leu Ile Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro  
100 105 110

Gly Gln Cys Asn Met Ile Val Glu Arg Leu Gly Asp Tyr Leu Leu Glu  
115 120 125

Gln Gly Met  
130

<210> 10  
<211> 131  
<212> PRT  
<213> Hevea brasiliensis

<400> 10  
Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Glu Ile Glu  
1 5 10 15

Gly Asn His Leu Ser Ala Ala Ala Ile Ile Gly Gln Asp Gly Ser Val  
20 25 30

Trp Ala Gln Ser Ala Asn Phe Pro Gln Phe Lys Ser Glu Glu Ile Thr  
35 40 45

Gly Ile Met Ser Asp Phe His Glu Pro Gly Thr Leu Ala Pro Thr Gly

50	55	60
Leu Tyr Ile Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly		
65	70	75 80
Ala Val Ile Arg Gly Lys Lys Gly Pro Gly Gly Val Thr Val Lys Lys		
	85	90 95
Thr Asn Gln Ala Leu Ile Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro		
	100	105 110
Gly Gln Cys Asn Met Ile Val Glu Arg Leu Gly Asp Tyr Leu Ile Asp		
	115	120 125
Gln Gly Tyr		
130		

<210> 11  
 <211> 131  
 <212> PRT  
 <213> Hevea brasiliensis

<400> 11
Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Asp Ile Asp
1 5 10 15
Gly His His Leu Thr Ala Ala Ala Ile Ile Gly His Asp Gly Ser Val
20 25 30
Trp Ala Gln Ser Ser Ser Phe Pro Gln Phe Lys Pro Glu Glu Val Ala
35 40 45
Ala Ile Met Lys Asp Phe Asp Glu Pro Gly Ser Leu Ala Pro Thr Gly
50 55 60
Leu His Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly
65 70 75 80
Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Val Lys Lys
85 90 95
Thr Gly Gln Ala Leu Ile Ile Gly Ile Tyr Asp Glu Pro Leu Thr Pro
100 105 110
Gly Gln Cys Asn Met Ile Val Glu Arg Leu Gly Asp Tyr Leu Leu Glu
115 120 125
Gln Gly Met
130

<210> 12  
 <211> 131  
 <212> PRT  
 <213> Hevea brasiliensis

<400> 12

Met Ser Trp Gln Thr Tyr Val Asp Asp His Leu Met Cys Asp Ile Asp  
1 5 10 15

Gly His Arg Leu Thr Ala Ala Ala Ile Ile Gly His Asp Gly Ser Val  
20 25 30

Trp Ala Gln Ser Ser Ser Phe Pro Gln Phe Lys Ser Asp Glu Val Ala  
35 40 45

Ala Ile Met Lys Asp Phe Asp Glu Pro Gly Ser Leu Ala Pro Thr Gly  
50 55 60

Leu His Leu Gly Ser Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Val Lys Lys  
85 90 95

Thr Ser Gln Ala Leu Ile Ile Gly Ile Tyr Asp Glu Pro Leu Thr Pro  
100 105 110

Gly Gln Cys Asn Met Ile Val Glu Arg Leu Gly Asp Tyr Leu Leu Glu  
115 120 125

Gln Gly Met  
130

<210> 13

<211> 131

<212> PRT

<213> Hevea brasiliensis

<400> 13

Met Ser Trp Gln Thr Tyr Val Asp Asp His Leu Met Cys Asp Ile Asp  
1 5 10 15

Gly His Arg Leu Thr Ala Ala Ala Ile Ile Gly His Asp Gly Ser Val  
20 25 30

Trp Ala Gln Ser Ser Gly Phe Pro Gln Phe Lys Ser Asp Glu Val Ala  
35 40 45

Ala Val Met Lys Asp Phe Asp Glu Pro Gly Ser Leu Ala Pro Thr Gly  
50 55 60

Leu His Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Val Lys Lys  
85 90 95

Thr Gly Gln Ala Leu Ile Ile Gly Ile Tyr Asp Glu Pro Leu Thr Pro  
100 105 110



Gly Gln Cys Asn Met Ile Val Glu Arg Leu Gly Asp Tyr Leu Leu Glu  
115 120 125

Gln Gly Met  
130

<210> 14  
<211> 131  
<212> PRT  
<213> Hevea brasiliensis

<400> 14  
Met Ser Trp Gln Thr Tyr Val Asp Asp His Leu Met Cys Asp Ile Asp  
1 5 10 15

Gly His Arg Leu Thr Ala Ala Ala Ile Ile Gly His Asp Gly Ser Val  
20 25 30

Trp Ala Gln Ser Ser Ser Phe Pro Gln Phe Lys Ser Asp Glu Val Ala  
35 40 45

Ala Val Met Lys Asp Phe Asp Glu Pro Gly Ser Leu Ala Pro Thr Gly  
50 55 60

Leu His Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Val Lys Lys  
85 90 95

Thr Gly Gln Ala Leu Ile Ile Gly Ile Tyr Asp Glu Pro Leu Thr Pro  
100 105 110

Gly Gln Cys Asn Met Ile Val Glu Arg Leu Gly Asp Tyr Leu Leu Asp  
115 120 125

Gln Gly Leu  
130

<210> 15  
<211> 133  
<212> PRT  
<213> Mercurialis annua

<400> 15  
Met Ser Trp Gln Thr Tyr Val Asp Asp His Leu Met Cys Asp Ile Asp  
1 5 10 15

Gly Gln Gly Gln His Leu Ala Ala Ala Ser Ile Val Gly His Asp Gly  
20 25 30

Ser Ile Trp Ala Gln Ser Ala Ser Phe Pro Gln Leu Lys Pro Glu Glu  
35 40 45

Ile Thr Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro  
 50 55 60  
 Thr Gly Leu Tyr Ile Ala Gly Thr Lys Tyr Met Val Ile Gln Gly Glu  
 65 70 75 80  
 Ser Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Ile  
 85 90 95  
 Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro Val  
 100 105 110  
 Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu  
 115 120 125  
 Ile Glu Gln Gly Met  
 130

<210> 16  
 <211> 134  
 <212> PRT  
 <213> Olea europaea

<400> 16  
 Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Asp Ile Glu  
 1 5 10 15  
 Gly His Glu Asp His Arg Leu Thr Ala Ala Ala Ile Val Gly His Asp  
 20 25 30  
 Gly Ser Val Trp Ala Gln Ser Ala Thr Phe Pro Gln Phe Lys Pro Glu  
 35 40 45  
 Glu Met Asn Gly Ile Met Thr Asp Phe Asn Glu Pro Gly His Leu Ala  
 50 55 60  
 Pro Thr Gly Leu His Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly  
 65 70 75 80  
 Glu Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr  
 85 90 95  
 Ile Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro  
 100 105 110  
 Val Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr  
 115 120 125  
 Leu Val Glu Gln Gly Met  
 130

<210> 17  
 <211> 134  
 <212> PRT  
 <213> Olea europaea

<400> 17

Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Asp Ile Glu  
1 5 10 15

Gly His Glu Gly His Arg Leu Thr Ala Ala Ala Ile Val Gly His Asp  
20 25 30

Gly Ser Val Trp Ala Gln Ser Ala Thr Phe Pro Gln Phe Lys Pro Glu  
35 40 45

Glu Met Asn Gly Ile Met Thr Asp Phe Asn Glu Pro Gly His Leu Ala  
50 55 60

Pro Thr Gly Leu His Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly  
65 70 75 80

Glu Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr  
85 90 95

Ile Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro  
100 105 110

Val Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr  
115 120 125

Leu Leu Glu Gln Gly Leu  
130

<210> 18

<211> 134

<212> PRT

<213> Olea europaea

<400> 18

Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Asp Ile Glu  
1 5 10 15

Gly His Glu Gly His Arg Leu Thr Ala Ala Ala Ile Val Gly His Asp  
20 25 30

Gly Ser Val Trp Ala Gln Ser Ala Thr Phe Pro Gln Phe Lys Pro Glu  
35 40 45

Glu Met Asn Gly Ile Met Thr Asp Phe Asn Glu Pro Gly His Leu Ala  
50 55 60

Pro Thr Gly Leu His Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly  
65 70 75 80

Glu Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr  
85 90 95

Ile Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro  
100 105 110

Val Thr Pro Gln Gln Cys Asn Met Val Ala Glu Arg Leu Gly Asp Tyr  
115 120 125

Leu Leu Glu Gln Gly Leu  
130

<210> 19

<211> 131

<212> PRT

<213> Phleum pratense

<400> 19

Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu  
1 5 10 15

Gly His His Leu Ala Ser Ala Ala Ile Leu Gly His Asp Gly Thr Val  
20 25 30

Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr  
35 40 45

Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro Thr Gly  
50 55 60

Met Phe Val Ala Gly Ala Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
65 70 75 80

Arg Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thr Ile Lys Lys  
85 90 95

Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro  
100 105 110

Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu  
115 120 125

Gln Gly Met  
130

<210> 20

<211> 131

<212> PRT

<213> Phleum pratense

<400> 20

Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu  
1 5 10 15

Gly His His Leu Ala Ser Ala Ala Ile Leu Gly His Asp Gly Thr Val  
20 25 30

Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr  
35 40 45

Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro Thr Gly

50                      55                      60  
 Met Phe Val Ala Gly Ala Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
 65                      70                      75                      80  
 Ala Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thr Ile Lys Lys  
                     85                      90                      95  
 Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro  
                     100                      105                      110  
 Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu  
                     115                      120                      125  
 Gln Gly Met  
 130

<210> 21  
 <211> 131  
 <212> PRT  
 <213> Phleum pratense

<400> 21  
 Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu  
 1                      5                      10                      15  
 Gly His His Leu Ala Ser Ala Ala Ile Phe Gly His Asp Gly Thr Val  
                     20                      25                      30  
 Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr  
                     35                      40                      45  
 Gly Ile Met Lys Asp Leu Asp Glu Pro Gly His Leu Ala Pro Thr Gly  
                     50                      55                      60  
 Met Phe Val Ala Ala Ala Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
 65                      70                      75                      80  
 Ala Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thr Ile Lys Lys  
                     85                      90                      95  
 Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro  
                     100                      105                      110  
 Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu  
                     115                      120                      125  
 Gln Gly Met  
 130

<210> 22  
 <211> 131  
 <212> PRT  
 <213> Prunus avium

<400> 22

Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Asp Ile Asp  
1 5 10 15

Gly Asn Arg Leu Thr Ala Ala Ala Ile Leu Gly Gln Asp Gly Ser Val  
20 25 30

Trp Ser Gln Ser Ala Thr Phe Pro Ala Phe Lys Pro Glu Glu Ile Ala  
35 40 45

Ala Ile Leu Lys Asp Leu Asp Gln Pro Gly Thr Leu Ala Pro Thr Gly  
50 55 60

Leu Phe Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Ala Gly  
65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Val Lys Lys  
85 90 95

Thr Asn Gln Ala Leu Ile Ile Gly Ile Tyr Asp Glu Pro Leu Thr Pro  
100 105 110

Gly Gln Cys Asn Met Ile Val Glu Arg Leu Gly Asp Tyr Leu Ile Glu  
115 120 125

Gln Gly Leu  
130

<210> 23

<211> 131

<212> PRT

<213> *Pyrus communis*

<400> 23

Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Asp Ile Asp  
1 5 10 15

Gly His His Leu Thr Ala Ala Ala Ile Leu Gly His Asp Gly Ser Val  
20 25 30

Trp Ala Gln Ser Ser Thr Phe Pro Lys Phe Lys Pro Glu Glu Ile Thr  
35 40 45

Ala Ile Met Lys Asp Phe Asp Glu Pro Gly Ser Leu Ala Pro Thr Gly  
50 55 60

Leu His Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Gly Gly  
65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Val Thr Val Lys Lys  
85 90 95

Thr Ser Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro Leu Thr Pro  
100 105 110

Gly Gln Cys Asn Met Ile Val Glu Arg Leu Gly Asp Tyr Leu Ile Asp  
115 120 125

Gln Gly Leu  
130

<210> 24  
<211> 131  
<212> PRT  
<213> Zea mays

<400> 24  
Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu  
1 5 10 15

Gly His His Leu Thr Ser Ala Ala Ile Val Gly His Asp Gly Ala Thr  
20 25 30

Trp Ala Gln Ser Thr Ala Phe Pro Glu Phe Lys Pro Glu Glu Met Ala  
35 40 45

Ala Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro Thr Gly  
50 55 60

Leu Ile Leu Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
65 70 75 80

Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Val Lys Lys  
85 90 95

Thr Gly Gln Ser Leu Ile Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro  
100 105 110

Gly Gln Cys Asn Leu Val Val Glu Arg Leu Gly Asp Tyr Leu Leu Glu  
115 120 125

Gln Gly Met  
130

<210> 25  
<211> 131  
<212> PRT  
<213> Zea mays

<400> 25  
Met Ser Trp Gln Ala Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu  
1 5 10 15

Gly His His Leu Ala Ala Ala Ala Ile Val Gly His Asp Gly Ala Ala  
20 25 30

Trp Ala Gln Ser Thr Ala Phe Pro Glu Phe Lys Thr Glu Asp Met Ala  
35 40 45

Asn Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro Thr Gly  
 50 55 60  
 Leu Phe Leu Gly Pro Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
 65 70 75 80  
 Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Val Lys Lys  
 85 90 95  
 Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro  
 100 105 110  
 Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Leu Glu  
 115 120 125  
 Gln Gly Met  
 130

<210> 26  
 <211> 131  
 <212> PRT  
 <213> Zea mays

<400> 26  
 Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu  
 1 5 10 15  
 Gly His His Leu Ser Ser Ala Ala Ile Val Gly His Asp Gly Ala Val  
 20 25 30  
 Trp Ala Gln Ser Thr Ala Phe Pro Gln Phe Lys Pro Glu Glu Met Thr  
 35 40 45  
 Asn Ile Ile Lys Asp Phe Asp Glu Pro Gly Phe Leu Ala Pro Ile Gly  
 50 55 60  
 Leu Phe Leu Gly Pro Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
 65 70 75 80  
 Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Val Lys Lys  
 85 90 95  
 Thr Gly Gln Ala Leu Val Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro  
 100 105 110  
 Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu  
 115 120 125  
 Gln Gly Leu  
 130

<210> 27  
 <211> 131  
 <212> PRT



<213> Zea mays

<400> 27

Met Ser Trp Gln Ala Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu  
1 5 10 15

Gly Gln His Leu Ser Ala Ala Ala Ile Val Gly His Asp Gly Ser Val  
20 25 30

Trp Ala Gln Ser Glu Ser Phe Pro Glu Leu Lys Pro Glu Glu Val Ala  
35 40 45

Gly Ile Ile Lys Asp Phe Asp Glu Pro Gly Thr Leu Ala Pro Thr Gly  
50 55 60

Leu Phe Val Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
65 70 75 80

Val Val Ile Arg Gly Lys Lys Gly Thr Gly Gly Ile Thr Ile Lys Lys  
85 90 95

Thr Gly Met Ser Leu Ile Ile Gly Val Tyr Asp Glu Pro Met Thr Pro  
100 105 110

Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Ile Glu  
115 120 125

Gln Gly Phe  
130

<210> 28

<211> 131

<212> PRT

<213> Zea mays

<400> 28

Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Leu Cys Asp Ile Glu  
1 5 10 15

Gly Gln His Leu Ser Ala Ala Ala Ile Val Gly His Asp Gly Ser Val  
20 25 30

Trp Ala Gln Ser Glu Asn Phe Pro Glu Leu Lys Pro Glu Glu Val Ala  
35 40 45

Gly Met Ile Lys Asp Phe Asp Glu Pro Gly Thr Leu Ala Pro Thr Gly  
50 55 60

Leu Phe Val Gly Gly Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly  
65 70 75 80

Val Val Ile Arg Gly Lys Lys Gly Thr Gly Gly Ile Thr Ile Lys Lys  
85 90 95

Thr Gly Met Ser Leu Ile Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro

100 105 110  
 Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Ile Glu  
 115 120 125

Gln Gly Phe  
 130

<210> 29  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 29  
 Met Ala Gly Trp Asn Ala Tyr Ile Asp Asn Leu Met Ala Asp Gly Thr  
 1 5 10 15

Cys Gln Asp Ala Ala Ile Val Gly Tyr Lys Asp Ser Pro Ser Val Trp  
 20 25 30

Ala Ala Val Pro Gly Lys Thr Phe Val Asn Ile Thr Pro Ala Glu Val  
 35 40 45

Gly Val Leu Val Gly Lys Asp Arg Ser Ser Phe Tyr Val Asn Gly Leu  
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Thr Leu Gly Gly Gln Lys Cys Ser Val Ile Arg Asp Ser Leu Leu Gln  
 65 70 75 80

Asp Gly Glu Phe Ser Met Asp Leu Arg Thr Lys Ser Thr Gly Gly Ala  
 85 90 95

Pro Thr Phe Asn Val Thr Val Thr Lys Thr Asp Lys Thr Leu Val Leu  
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Asp Met Ile Val Gly Lys Asp Arg Glu Gly Phe Phe Thr Asn Gly Leu  
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 Thr Leu Gly Ala Lys Lys Cys Ser Val Ile Arg Asp Ser Leu Tyr Val  
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 Asp Gly Asp Cys Thr Met Asp Ile Arg Thr Lys Ser Gln Gly Gly Glu  
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 Pro Thr Tyr Asn Val Ala Val Gly Arg Ala Gly Arg Val Leu Val Phe  
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 35 40 45  
 Asp Met Ile Val Gly Lys Asp Arg Glu Gly Phe Phe Thr Asn Gly Leu  
 50 55 60  
 Thr Leu Gly Ala Lys Lys Cys Ser Val Ile Arg Asp Ser Leu Tyr Val  
 65 70 75 80  
 Asp Gly Asp Cys Thr Met Asp Ile Arg Thr Lys Ser Gln Gly Gly Glu  
 85 90 95  
 Pro Thr Tyr Asn Val Ala Val Gly Arg Ala Gly Arg Ala Leu Val Ile  
 100 105 110  
 Val Met Gly Lys Glu Gly Val His Gly Gly Thr Leu Asn Lys Lys Ala  
 115 120 125  
 Tyr Glu Leu Ala Leu Tyr Leu Arg Arg Ser Asp Val  
 130 135 140

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